

**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Docket No. _____

Petition of twenty Vermont utilities and)
Vermont Public Power Supply Authority)
requesting authorization pursuant to 30)
V.S.A. § 248 for the purchase of shares of)
218 MW to 225 MW of electricity from H.Q.)
Energy Services (U.S.) Inc. commencing)
November 1, 2012 through 2038, issuance of)
findings that such purchases are entitled to)
rate recovery assurance, and requesting)
certain approvals under 30 V.S.A. § 108)

**PREFILED TESTIMONY OF
BRIAN M. CALLNAN
ON BEHALF OF**

**VERMONT PUBLIC POWER SUPPLY AUTHORITY AND THIRTEEN MUNICIPAL
ELECTRIC DEPARTMENTS**

August 17, 2010

Witness Brian Callnan's prefiled testimony explains why the H.Q. Energy Services (US) Inc. Power Purchase Agreement ("HQUS PPA") and the Vermont Public Power Supply Authority Power Sales Agreements ("VPPSA PSA") are needed to meet the VPPSA member municipalities' demand requirements (Section 248(b)(2)(need)), how they provide an economic benefit to the municipalities, their customers and the state (Section 248(b)(4)(economic benefit)), how they comply with the principles of integrated resource planning (Section 248(b)(6)(IRP) & PSB Rule 5.404(B)), and supports VPPSA's request for approval under 30 V.S.A. § 108 to pledge collateral.

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EXHIBITS

Exhibit VPPSA-1	Brian Callnan’s Resume
Exhibit VPPSA-2	Power Sales Agreement
Exhibit VPPSA-3	VPPSA Resources by Category
Exhibit VPPSA-4	VPPSA Municipalities’ Customers’ Energy Preferences

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**VERMONT PUBLIC POWER SUPPLY AUTHORITY AND THIRTEEN MUNICIPAL
ELECTRIC DEPARTMENTS**

1 **1. Introduction**

2 Q1. Please state your name, occupation and business address.

3 A1. Brian M. Callnan, Director of Power Supply and Transmission for Vermont Public
4 Power Supply Authority (“VPPSA”) located at 5195 Waterbury Stowe Road in
5 Waterbury Center, Vermont.

6

7 Q2. Please summarize your education, training and professional experience.

8 A2. My qualifications are set forth in my resume, Exhibit VPPSA-1.

9

1 Q3. What is the purpose of your testimony?

2 A3. My testimony supports VPPSA's decision to move forward as a Vermont Buyer under
3 the Power Purchase and Sales Agreement ("HQUS PPA") dated as of August 12, 2010,
4 with H.Q. Energy Services (U.S.) Inc. ("HQUS") as Seller and the Vermont distribution
5 utilities as Buyers ("Vermont Buyers"). The HQUS PPA is described in the joint
6 prefiled testimony of William Deehan and Christopher Cole and is included as an exhibit
7 to that testimony as Exhibit Petitioners Joint-3.

8

9 My testimony also describes the Power Sales Agreements ("VPPSA PSAs") between
10 VPPSA and fourteen Vermont electric distribution utilities, which are the thirteen
11 VPPSA member municipalities ("VPPSA Municipalities") and Washington Electric
12 Cooperative, Inc. ("WEC") (together referred to as "PSA Participants"). The VPPSA
13 PSAs govern the resale of the power that VPPSA purchases under the HQUS PPA. My
14 testimony will also discuss the specific allocations under the VPPSA PSA to the PSA
15 Participants.

16

17 Additionally, my testimony addresses why the HQUS PPA and the VPPSA PSAs are
18 needed to meet the VPPSA Municipalities' electric energy requirements (30 V.S.A. §
19 248(b)(2)(need)), how the HQUS PPA and VPPSA PSAs provide an economic benefit to
20 the VPPSA Municipalities, their customers and the state (30 V.S.A. § 248(b)(4))

1 (economic benefit)), how the HQUS PPA and the VPPSA PSAs comply with the
2 principles of integrated resource planning (30 V.S.A. § 248(b)(6)(IRP) & PSB Rule
3 5.404(B)), and I support VPPSA's request for approval under 30 V.S.A. § 108 to pledge
4 collateral. Patricia H. Richards of La Capra will be addressing 30 V.S.A. § 248(b)(2),
5 (4) and (6) on behalf of WEC.

6

7 My testimony complements and supplements the joint "statewide" Deehan/Cole prefiled
8 testimony that is offered on behalf of all Petitioners.

9

10 **2. VPPSA's HQUS PPA Power Purchase Entitlements**

11 Q4. Please describe VPPSA's power purchase entitlements under the HQUS PPA.

12 A4. As described in the Deehan/Cole prefiled testimony, the HQUS PPA includes six
13 schedules (blocks) for the Energy Quantity, with two allocation tables. At the outset, the
14 Energy Quantity is subject to the transfer capability limitations at Highgate, which is 218
15 MW. If Highgate's transfer capability is increased to 225 MW during the term of the
16 HQUS PPA, the Energy Quantity will increase to 225 MW and the allocations among
17 the Vermont Buyers will change.

18

19 Pursuant to the HQUS PPA, VPPSA's Share of the Energy Quantity varies throughout
20 the life of the contract. The tables below show the schedule of those deliveries. Under

1 the 218 MW scenario, the largest portion of delivered energy occurs in the fifth energy
 2 block and is 16.267 MW. Under the 225 MW scenario, the largest portion of delivered
 3 energy also occurs in the fifth energy block and is 15.910 MW.

4 **Table 1. Vermont systems energy allocations (in MW) of the HQUS PPA at 218 MW**
 5

	November 1, 2012 to October 31, 2015	November 1, 2015 to October 31, 2016	November 1, 2016 to October 31, 2020	November 1, 2020 to October 31, 2030	November 1, 2030 to October 31, 2035	November 1, 2035 to October 31, 2038
	MW	MW	MW	MW	MW	MW
BED	0	5	5	9	9	4
CVPS	0	83.119	94.119	95.119	105.809	22.69
GMP	4.821	65.589	75.063	75.063	79.11	18.342
Stowe	1.032	2.884	2.984	2.984	2.251	0.399
VEC	15.236	15.236	15.236	16.236	4.004	4.004
VPPSA	0.911	11.172	15.598	15.598	16.267	6.006
Vermont Marble	3	4	4	4	1.559	0.559
TOTAL	25	187	212	218	218	56

6

7

1 **Table 2. Vermont systems energy allocations (in MW) of the HQUS PPA at 225 MW**

	November 1, 2012 to October 31, 2015	November 1, 2015 to October 31, 2016	November 1, 2016 to October 31, 2020	November 1, 2020 to October 31, 2030	November 1, 2030 to October 31, 2035	November 1, 2035 to October 31, 2038
	MW	MW	MW	MW	MW	MW
BED	0	5	5	9	9	4
CVPS	0	85.419	96.419	98.419	112.101	26.682
GMP	7.017	67.485	76.959	76.959	81.293	20.825
Stowe	1.238	2.89	2.99	2.99	2.135	0.483
VEC	17	17	17	17	3.845	3.845
VPPSA	1.745	11.206	15.632	15.632	15.910	6.449
Vermont Marble	5	5	5	5	0.716	0.716
Total	32	194	219	225	225	63

2 HQUS will also be transferring Environmental Attributes Quantity to VPPSA in equal
 3 proportion to its Energy Quantity, as is described in more detail in the HQUS PPA and
 4 the Deehan/Cole prefiled testimony.

5
 6 Q5. Can these allocations under the HQUS PPA be increased?

7 A5. Yes. Should any Vermont Buyer under the HQUS PPA fail to get the necessary
 8 approvals to enter into the HQUS PPA, the other Vermont Buyers will have the
 9 opportunity to increase their allocation *pro rata*. In such a circumstance, VPPSA would
 10 only increase its allocation if it was justified based on the PSA Participants' needs.
 11 Moreover, VPPSA can reduce its current total allocation under the HQUS PPA if the
 12 PSA Participants fail to get required approvals that equal that amount.

13

1 Q6. How do the quantities of energy VPPSA is purchasing under the HQUS PPA compare to
2 VPPSA's members' and WEC's current power purchases from Hydro-Quebec?

3 A6. Certain VPPSA members are currently receiving a total of 14.814 MW from Hydro-
4 Quebec. Of this, 2.916 MW will expire in October of 2012, 9.570 MW will expire in
5 October of 2015, .210 MW will expire in December of 2015, 1.786 MW will expire in
6 October of 2016 and the remaining .329 MW will expire in October of 2020. The
7 Village of Lyndonville Electric Department sells 1.158 MW back to Hydro-Quebec and
8 the Village of Morrisville Water & Light Department sells .500 MW back to Hydro-
9 Quebec. These sell-backs, which will expire in April of 2012, reduce the current amount
10 of power received by VPPSA members in aggregate to 13.156 MW. The table below
11 lists each VPPSA member's loss of power purchases from Hydro-Quebec by scheduled
12 expiration date. WEC currently purchases 2.589 MW from Hydro-Quebec.

13

14

1 **Table 3. PSA Participants' cumulative loss of energy by schedule expiration date (in MW)**

System	Schedule C1/C2 Expiration 10/2012	Schedule B Expiration 10/2015	Schedule C3 Expiration 12/2015	Schedule C4a Expiration 10/2016	Schedule C4b Expiration 10/2020
Barton Village Inc. Electric Department	0.597	1.269	1.327	1.455	1.455
Village of Enosburg Falls Water & Light Department	0.476	1.206	1.347	1.347	1.676
Village of Hyde Park Electric Department	0	0.39	0.391	0.391	0.391
Village of Ludlow Electric Light Department	0.334	1.618	1.618	1.618	1.618
Village of Lyndonville Electric Department	0.626	3.064	3.069	4.227	4.227
Village of Morrisville Water & Light Department	0.574	2.71	2.713	3.213	3.213
Village of Northfield Electric Department	0.312	1.51	1.512	1.512	1.512
Inc. Village of Orleans Electric Department	0	0.722	0.722	0.722	0.722
Washington Electric Cooperative	0	2.589	2.589	2.589	2.589
Vermont Public Power Supply Authority	2.919	15.078	15.288	17.074	17.403

2

3 The HQUS PPA will not completely replace the power currently received from Hydro-
 4 Quebec under the current contracts if each PSA Participant takes its pro-rata share of
 5 2009 Real Time Load Obligation.

6

7 Q7. What is the cost of the energy products under the HQUS PPA?

8 A7. Please see the Deehan/Cole prefiled testimony for explanation of the costs under the
 9 HQUS PPA.

10

11 **3. Concurrent Power Sales Agreements with the VPPSA Municipalities**

12 Q8. Please describe the VPPSA Power Sales Agreements between VPPSA and the VPPSA
 13 Municipalities.

14

1 A8. VPPSA's role in this purchase is as a joint action agency and power supplier, acting to
2 facilitate the sale of the Hydro-Quebec power to certain Vermont distribution utilities.
3 To that end, VPPSA has made arrangements to sell the entire amount of VPPSA's Share
4 of Energy Quantity to the PSA Participants. The document that governs the sale of
5 energy products from VPPSA to the PSA Participants is the VPPSA Power Sales
6 Agreement. See Exhibit VPPSA-2. Pursuant to 30 V.S.A. § 248(a), the PSA
7 Participants are acting as Co-Petitioners in this matter and are seeking a Certificate of
8 Public Good ("CPG") from the Public Service Board ("Board") for the VPPSA PSAs.
9 VPPSA has formally offered the VPPSA PSAs to the PSA Participants and their
10 acceptance is dependent upon the approval of the PSA Participants' governing bodies
11 and voters, and the Board pursuant to Section 248.

12
13 Q9. How are the Monthly Power Costs calculated under the VPPSA PSA?

14 A9. The Monthly Power Costs under the VPPSA PSA that will be charged to each PSA
15 Participant will include the *pro rata* share of monthly invoice costs billed by HQUS to
16 VPPSA, and any other VPPSA-incurred costs related to the administration of the HQUS
17 PPA and any costs of financing which may be necessary for the performance of the
18 HQUS PPA. See Section 5(A) of the VPPSA PSA, Exhibit VPPSA-2. The Monthly
19 Power Costs will be allocated based on each PSA Participant's share as indicated in
20 Attachment A of the VPPSA PSA and will then be billed to each PSA Participant.

1

2 Q10. What regulatory and voters approvals are necessary for the VPPSA PSAs?

3 A10. Each PSA Participant will require approval from the Public Service Board pursuant to 30
4 V.S.A. § 248(a)(1)(A). Moreover, 30 V.S.A. § 248(c) requires that all the VPPSA
5 Municipalities receive approval from their municipal voters. WEC will need approval
6 from its cooperative members as well.

7

8 **4. The VPPSA Municipalities Allocation under the PSAs**

9 Q11. Please describe the initial proposed allocations to the VPPSA Municipalities under the
10 PSAs.

11 A11. Each VPPSA Municipality will be offered a portion of VPPSA's Share of Energy
12 Quantity under the HQUS PPA based on its 2009 Real Time Load Obligation. WEC's
13 initial allocation will be 2.653 MW under the 218 MW scenario and 2.724 MW under
14 the 225 MW scenario. Should a PSA Participant decline to take all or a portion of its
15 *pro rata* share, VPPSA will re-offer the remainder of the share to the other PSA
16 Participants *pro rata* based on their 2009 Real Time Load Obligation. This process will
17 continue until all of the PSA Participants have subscribed to the full amount of energy
18 products that they both need and desire to take. If any of VPPSA's Share of Energy
19 Quantity is left unsubscribed, it will be offered back to the other Vermont Buyers under
20 the HQUS PPA.

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The initial allocations, which are contained in Attachment A of the VPPSA PSA, are as follows:

Table 4. Initial PSA Participants' allocation (in MW) of the HQUS PPA at 218 MW

System	November 1, 2012 to October 31, 2015	November 1, 2015 to October 31, 2016	November 1, 2016 to October 31, 2020	November 1, 2020 to October 31, 2030	November 1, 2030 to October 31, 2035	November 1, 2035 to October 31, 2038
Barton Village Inc. Electric Department	0.041	0.502	0.593	0.593	0.612	0.151
Village of Enosburg Falls Water & Light Department	0.059	0.724	0.856	0.856	0.883	0.217
Town of Hardwick Electric Department	0.078	0.958	1.132	1.132	1.168	0.288
Village of Hyde Park Electric Department	0.031	0.375	0.443	0.443	0.457	0.113
Village of Jacksonville Electric Company	0.014	0.168	0.199	0.199	0.205	0.051
Village of Johnson Water and Light Department	0.038	0.462	0.546	0.546	0.563	0.139
Village of Ludlow Electric Light Department	0.119	1.464	1.729	1.729	1.784	0.439
Village of Lyndonville Electric Department	0.179	2.198	2.597	2.597	2.678	0.660
Village of Morrisville Water & Light Department	0.110	1.346	1.590	1.590	1.640	0.404
Village of Northfield Electric Department	0.072	0.883	1.043	1.043	1.076	0.265
Inc. Village of Orleans Electric Department	0.029	0.352	0.416	0.416	0.430	0.106
Town of Readsboro Electric Light Department	0.006	0.075	0.088	0.088	0.091	0.022
Swanton Village, Inc. Electric Department	0.136	1.664	1.966	1.966	2.028	0.499
Washington Electric Cooperative	0.000	0.000	2.400	2.400	2.653	2.653
Vermont Public Power Supply Authority	0.911	11.172	15.598	15.598	16.267	6.006

Table 5. Initial PSA Participants' allocation (in MW) of the HQUS PPA at 225 MW

System	November 1, 2012 to October 31, 2015	November 1, 2015 to October 31, 2016	November 1, 2016 to October 31, 2020	November 1, 2020 to October 31, 2030	November 1, 2030 to October 31, 2035	November 1, 2035 to October 31, 2038
Barton Village Inc. Electric Department	0.078	0.504	0.595	0.595	0.593	0.167
Village of Enosburg Falls Water & Light Department	0.113	0.727	0.858	0.858	0.855	0.242
Town of Hardwick Electric Department	0.150	0.961	1.135	1.135	1.131	0.319
Village of Hyde Park Electric Department	0.059	0.376	0.444	0.444	0.443	0.125
Village of Jacksonville Electric Company	0.026	0.169	0.199	0.199	0.199	0.056
Village of Johnson Water and Light Department	0.072	0.463	0.547	0.547	0.545	0.154
Village of Ludlow Electric Light Department	0.229	1.468	1.733	1.733	1.727	0.488
Village of Lyndonville Electric Department	0.343	2.205	2.603	2.603	2.594	0.733
Village of Morrisville Water & Light Department	0.210	1.350	1.594	1.594	1.589	0.449
Village of Northfield Electric Department	0.138	0.886	1.046	1.046	1.042	0.294
Inc. Village of Orleans Electric Department	0.055	0.354	0.417	0.417	0.416	0.118
Town of Readsboro Electric Light Department	0.012	0.075	0.088	0.088	0.088	0.025
Swanton Village, Inc. Electric Department	0.260	1.669	1.971	1.971	1.964	0.555
Washington Electric Cooperative	0.000	0.000	2.400	2.400	2.724	2.724
Vermont Public Power Supply Authority	1.745	11.206	15.632	15.632	15.910	6.449

Each PSA Participant has the right under the VPPSA PSA, subject to receiving all necessary approvals, to increase its allocation should there be additional portions of VPPSA's Share of Energy Quantity available. For example, if one or more of the PSA Participants fails to get all necessary approvals for the purchase, the other PSA participants that have received all necessary approvals may increase their PSA allocations with the unsubscribed share of VPPSA's Share of the Energy Quantity.

In testimony below, I will discuss the upper limit of energy product that each VPPSA Municipality could take based on a forecasted system load. It is important for the Board to note, however, that each VPPSA Municipality and WEC will have the ability to determine how much energy product within that range it wants to purchase from VPPSA

1 based on any number of factors important to it and its constituents. These maximum
2 amounts discussed below, which are based on an individual VPPSA Municipality's
3 needs, may be greater than the allocation amounts listed above. The above allocations
4 are based on a limited amount of HQUS power being available and an assumption of full
5 participation by PSA Participants. VPPSA specifically requests that the Board approve
6 the maximum amounts discussed below as an "up to" amount for each VPPSA
7 Municipality. This will allow VPPSA to reallocate any additional portion of its Share of
8 Energy Quantity to those PSA Participants that need additional power to meet their
9 forecasted system load without further regulatory action. This is necessary due to the
10 likely time constraints of such a reallocation. The maximum allocations are listed in the
11 two tables below. Note that WEC's maximum amount and the support for that amount
12 is contained in the Prefiled Testimony of Patricia H. Richards.

1 **Table 6. Maximum VPPSA Municipality Need (in MW)**

System	November 1, 2012 to October 31, 2015	November 1, 2015 to October 31, 2016	November 1, 2016 to October 31, 2020	November 1, 2020 to October 31, 2030	November 1, 2030 to October 31, 2035	November 1, 2035 to October 31, 2038
Barton Village Inc. Electric Department	0.105	0.757	1.048	1.161	1.306	1.308
Village of Enosburg Falls Water & Light Department	0.113	0.813	1.372	1.666	1.974	1.970
Town of Hardwick Electric Department	0.150	1.015	2.331	2.464	3.140	3.141
Village of Hyde Park Electric Department	0.077	1.138	1.139	1.158	1.235	1.233
Village of Jacksonville Electric Company	0.026	0.378	0.505	0.516	0.573	0.571
Village of Johnson Water and Light Department	0.072	0.985	1.459	1.486	1.571	1.567
Village of Ludlow Electric Light Department	0.229	2.307	4.100	4.300	4.973	4.955
Village of Lyndonville Electric Department	0.517	3.215	5.402	6.457	7.164	7.141
Village of Morrisville Water & Light Department	0.231	1.599	2.834	3.394	4.492	4.472
Village of Northfield Electric Department	0.138	1.413	2.559	2.610	3.006	3.002
Inc. Village of Orleans Electric Department	0.293	1.057	1.031	1.048	1.106	1.080
Town of Readsboro Electric Light Department	0.021	0.152	0.243	0.247	0.272	0.272
Swanton Village, Inc. Electric Department	0.260	1.669	1.971	1.971	1.964	0.815
Vermont Public Power Supply Authority	2.231	16.498	25.994	28.478	32.776	31.525

2
 3 As part of the VPPSA PSA, VPPSA will transfer Environmental Attributes in equal
 4 proportion to each PSA Participant's allocation of Energy under the VPPSA PSA.

5

6 Q12. Are all of the allocations in Table 6 based on the VPPSA's Municipalities' need as
 7 determined by analyzing their existing resource portfolios in the context of their
 8 forecasted load projections?

9 A12. With the exception of Swanton, all maximum allocations listed in Table 6 are based on
 10 such an analysis. Swanton is unique, however, in that it has a large amount of internal
 11 generation which should cover a substantial portion of its future load. Thus, Swanton's
 12 allocation in Table 6 is based on its *pro rata* share of VPPSA's total allocation.

13 Swanton's allocation was determined this way because it provides Swanton with
 14 resource diversity for the life of the HQUS PPA and coverage for its load should it lose

1 any of its existing or planned internal generation. Moreover, the allocation is consistent
2 with Vermont's overall approach to the HQUS PPA in that each distribution utility
3 should have an opportunity to fully participate in the contract.
4

5 Q13. Can these allocations be adjusted depending on the outcome of the various regulatory
6 and voter approval processes?

7 A13. Yes. As discussed above, the PSA Participant is allowed (but not required) to increase
8 its allocation if there is an additional amount available. In such a case, the PSA
9 Participant must have regulatory and voter approval for its increased allocation. A PSA
10 Participant can reduce its allocation as well.
11

12 **5. Section 248(b)(2) – Need**

13 Q14. Section 248(b)(2) requires the Board to find that this PPA is required to meet the need
14 for future demand for service which could not otherwise be provided in a more cost
15 effective manner through energy conservation programs and measures and energy
16 efficiency and load management measures. Please explain how the HQUS PPA and the
17 VPPSA PSAs satisfy this criterion.

18 A14. The 2008 integrated resource plan ("IRP") model submitted by VPPSA on behalf of the
19 VPPSA Municipalities identified a substantial shortage of power to meet its forecasted
20 needs beginning in 2009. Roughly 30% of the VPPSA Municipalities' needs, mainly

1 covered through market contracts, expired in 2009. The IRP also identified that the need
2 for power would continue to grow after 2009, reaching over 80% of forecasted needs
3 with the assumed loss of the McNeil generating plant in 2029. VPPSA has begun to
4 meet those needs through its Planned Purchasing program.

5
6 Each spring and fall, VPPSA has been procuring wholesale power to meet a portion of
7 its forecasted needs of its members' systems. This program was designed to purchase
8 approximately 25% of the future needs up to two years in advance of the date the power
9 would be needed. The design concept of the program centers on the dollar cost
10 averaging of four separate price points for any given year of forecasted power needs.

11 This program is intended to supplement any purchases that were made if the market
12 prices fell low enough to economically purchase power that would not have upward rate
13 pressure on each municipal system's power portfolio costs. The years of 2009 and 2010
14 have seen falling power prices that allowed VPPSA to purchase annual contracts with
15 separate vendors through 2016. VPPSA's current vendors for wholesale power that are
16 not associated with a specific generator are unwilling to contract for power with the
17 VPPSA Municipalities beyond six years.

18
19 This environment makes a reasonably-priced longer term power agreement beyond six
20 years especially beneficial for least cost planning purposes. VPPSA has been active in

1 its Planned Purchase program, fulfilling 90% or more of the VPPSA Municipalities’
2 forecasted needs through 2015 and close to 65% of their forecasted needs through 2016.
3 Less than 50% of the VPPSA Municipalities’ needs will be met by the year 2017. The
4 HQUS PPA will help move VPPSA’s coverage to approximately 65% for the year 2017
5 and above 55% through 2029. Please see Exhibit VPPSA -3 for a chart depicting the
6 VPPSA Municipalities’ forecasted needs and the resources currently under contract or
7 ownership to meet those needs. Exhibit VPPSA-3 provides a 35 year analysis with and
8 without the HQUS PPA.

9

10 Q15. How was this analysis performed?

11 A15. VPPSA has forecasted the needs of the VPPSA Municipalities using a software product
12 that utilizes regression analysis to predict future needs. The efforts of Efficiency
13 Vermont and individual system upgrades to their distribution systems are assumed in the
14 load data that is used in the load forecasting model. VPPSA has assumed that these
15 conservation and energy efficiency projects will continue into the future at the same
16 level as they have in the past. Should the efforts of Efficiency Vermont and the
17 individual municipal systems increase substantially, the forecasted needs provided by the
18 regression model will over-estimate the actual need for power in the future. Should
19 efficiency efforts decrease, the load forecasting model will under-estimate the need for
20 power in the future. VPPSA’s current load forecasting model is predicting a need

1 greater than 50% beginning in the year 2017. VPPSA is confident that even if
2 conservation and energy efficiency efforts are increased substantially, a need will still
3 exist for the HQUS PPA.
4

5 **6. Section 248(b)(4) – Economic Benefit**

6 Q16. Section 248(b)(4) requires the Board to find that the HQUS PPA will result in an
7 economic benefit to the state and its residents. Please explain how this criterion is
8 satisfied.

9 A16. Yes, the HQUS PPA displays a combination of attributes that make it a valuable addition
10 to our longer term supply resource portfolio.
11

12 The pricing structure of the HQUS PPA will be less volatile than purchasing energy on
13 the wholesale market as it is needed. The pricing structure will have a dampening effect
14 to the large year-over-year wholesale energy market price swings that can cause rate
15 pressure for the VPPSA Municipalities. The absence of a long term contract or future
16 generation project to meet future VPPSA Municipalities' energy needs may cause
17 VPPSA to purchase energy that is exposed to volatile energy prices, increasing rate
18 pressure.
19
20

1 One of the main components of the pricing structure of the HQUS PPA is the starting
2 price, which the Deehan/Cole testimony discusses in detail. The starting price serves as
3 the foundation of the contract's pricing structure and is based on current market
4 conditions. Given, this contract feature, VPPSA believes that this historically low
5 energy price time period is the right time to begin such a long term contract.

6
7 Additionally, the HQUS PPA includes environmental attributes that the State of
8 Vermont has classified renewable. VPPSA believes that future carbon legislation of
9 some type will likely happen and the result of that legislation may cause additional
10 expense for power that is not classified as renewable. VPPSA's current Planned
11 Purchase program depends solely on the wholesale energy market, which is not the
12 market that offers the renewable attributes of power production that will likely be used
13 to meet new carbon legislation mandates. Should new legislation require that a certain
14 portion of VPPSA Municipalities' power supply come from renewable sources above
15 and beyond their current renewable energy sources, an additional expense to purchase
16 Renewable Energy Credits, or a similar product, would be incurred. The energy from
17 the HQUS PPA will help mitigate that risk as it has been classified as renewable.

18
19 VPPSA has put considerable time and effort into giving the VPPSA Municipalities the
20 best information on possible rate pressures in the next five years. The HQUS PPA will

1 make that job more difficult given its annual pricing adjustments, bringing a level of
2 uncertainty into the power supply analysis. Despite this drawback, however, the
3 volatility exposure relief, long-term nature, favorable starting price conditions and
4 environmental attributes, are all economic benefits that far outweigh the difficulty in
5 modeling the contract.

6
7 Q17. Please describe and explain your analysis that led to these conclusions.

8 A17. VPPSA solicited the services of Craig Kieny of Energy Initiatives Inc. for initial analysis
9 of the HQUS PPA. The model developed by Mr. Kieny has been included with his
10 testimony on behalf of Vermont Electric Cooperative. The conclusions from this model
11 highlighted the volatility dampening benefits of the HQUS PPA.

12
13 In addition to this model, VPPSA modeled the contract with actual energy prices from
14 the last 6 years and compared the results to a hypothetical Planned Purchase program
15 starting at the beginning of the analysis. The analysis involved moving the start point of
16 the contract to the year 2004. Pricing data was repeated from the year 2011 to 2029.
17 The analysis was based on an assumed 3% escalation factor. This analysis showed that
18 an alternate program such as VPPSA's Planned Purchasing would not dampen the
19 volatility of the energy markets as well as executing the HQUS PPA would.

20

VPPSA's analysis of the VPPSA Municipalities' portfolios revealed large amounts of need in the future that would not be covered by existing contracts or generating resources. The VPPSA's Municipalities are currently covered more than 60% by renewable resources. This percentage drops to below 20% in 2029 due to the loss of the McNeil Generating plant. This analysis showed that the renewable aspects of the HQUS PPA would help extend the portion of the portfolio that is classified as renewable to close to 40% through 2035. This is illustrated in Exhibit VPPSA-3.

7. Section 248(b)(6) and PSB Rule 5.404(B) – Integrated Resource Planning

Q18. Please explain how the HQUS PPA complies with the principles of integrated resource planning.

A18. The results from the VPPSA Municipalities' 2008 IRPs filed by VPPSA were developed by a model that attempted to identify the best power supply resources for the future. Many different fuel sources were included to help guide VPPSA in determining which fuel source or mix of fuel sources should be sought out. The HQUS PPA contract was not modeled in the IRPs as it was not known at the time. The IRPs pointed to a combination of owning a wind generator, purchasing a market contract, and developing a contract for a specific generating unit as one of the better combinations to meet the forecasted needs. As described above, the HQUS PPA contract has the preferential element of purchasing market contracts in that the contract price could decrease over

1 time while combining it with the long-term stability element of a unit-specific contract
2 or a generation project.
3

4 The 2008 IRPs emphasized fuel source diversity as one of the main concerns with future
5 power choices. Natural gas prices were consistently the largest variable risk in any
6 choice for fuel as they have in the past determined the price for power in New England.
7 Any resource mix that relied on one fuel source (other than renewables) was ranked
8 higher in risk than a diverse portfolio with multiple fuel sources. The HQUS PPA
9 satisfies this need to diversify fuel sources to meet future power needs.
10

11 In addition, the 2008 IRPs filed on behalf of the VPPSA Municipalities included a
12 customer survey that attempted to quantify the preferences in fuel choices for long-term
13 power supply decisions. The VPPSA Municipalities overwhelmingly chose renewable
14 sources as seen in Exhibit VPPSA-4. Solar, small hydro (200 MW or less), wind and
15 large hydro (more than 200 MW) were the preferred fuel sources according to the results
16 of the survey. The HQUS PPA is from a source that has both wind and large hydro
17 components that are in line with the preferred fuel sources identified in the 2008 IRPs.
18

19 Q19. Why is Washington Electric Cooperative purchasing its share of the HQUS power
20 through VPPSA?

1 A19. Despite the fact that WEC is not a member of VPPSA (although it is eligible to become
2 a member of VPPSA), it has decided the best way to purchase the HQUS power is
3 through VPPSA. The main reason is that HQUS would require WEC to become a
4 “Market Participant” under ISO-NE. Currently, VPPSA acts as a Market Participant on
5 behalf of WEC and this efficiency allows WEC to avoid the costs associated with
6 becoming a Market Participant on its own behalf. For the same reason, VPPSA acts as a
7 Market Participant on behalf of the VPPSA Municipalities. VPPSA is prepared to allow
8 WEC to purchase its share of HQUS power through VPPSA because such a transaction
9 is consistent with the purpose for which VPPSA was primarily created (to fulfill the
10 power supply needs of Vermont municipalities and cooperatives) and it poses little risk
11 to VPPSA and the VPPSA Municipalities. There is little risk because VPPSA is allowed
12 to reduce its total allocation under the HQUS PPA if WEC cannot obtain all its
13 necessary approvals and WEC will be solely responsible for its share under the VPPSA
14 PSA in the event of a default. There is no step-up provision in the VPPSA PSAs
15 requiring the other PSA Participants to assume WEC’s share in the event of a default.
16

17 **8. Request for Section 108 Approval**

18 Q20. Is VPPSA also requesting approval to enter into the HQUS PPA under 30 V.S.A. § 108?

19 A20. Yes. The Collateral Agreement, a component of the HQUS PPA, contains a pledge to
20 HQUS of a security interest in the collateral, which could include, among other things,

1 cash or letters of credit issued in VPPSA's name. Subsection 108(a) requires Board
2 approval of the pledge of a company's corporate property. VPPSA believes that the
3 Board should approve the pledge contained in the Collateral Agreement as promoting
4 the general good of state because it is a necessary component of the transaction that will
5 deliver the benefits described earlier in my testimony.

6

7 Q21. Does this complete your testimony?

8 A21. Yes.